

Amendment and Response

Applicant: Rao Rajashekhar

Serial No.: 10/574,117

Filed: August 10, 2007

Docket No.: I438.113.101/IF02P041WOUS

Title: DEVICE FOR UTILIZATION WITH THE SYNCHRONIZATION OF CLOCK SIGNALS, AND CLOCK SIGNAL SYNCHRONIZING METHOD

IN THE CLAIMS

Please cancel claims 13, 19, 20, 23 and 27.

Please amend claims 9, 16, 21, 22, 24, 28 and 29 as follows:

1-8. (Cancelled)

9. (Currently Amended) An apparatus for utilization with the synchronization of clock signals, comprising:

a delay device with a variably controllable delay time into which a clock signal, or a signal obtained therefrom, is input, charged with the variably controllable delay time, and output as a delayed clock signal; and

a device configured to determine whether a clock edge of the delayed clock signal output by the delay device, or of a signal obtained therefrom, lies within a predetermined time window before a corresponding clock edge of the clock signal, or of the signal obtained therefrom; and

a frequency detection device, wherein a duration of the time window is determined as a function of the frequency of the clock signal detected by the frequency detection device.

10. (Previously Presented) The apparatus according to claim 9, comprising wherein:

if it is determined that the clock edge of the delayed clock signal output by said delay device, or of the signal obtained therefrom, lies within the predetermined time window before the corresponding clock edge of the clock signal, or of the signal obtained therefrom, said device sends a determination signal to said delay device.

11. (Previously Presented) The apparatus according to claim 10, comprising wherein the delay device changes from a first to a second mode in reaction to the determination signal.

12. (Previously Presented) The apparatus according to claim 11, comprising wherein:

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if the device determines that the clock edge of the delayed clock signal output by said delay device, or of the signal obtained therefrom, lies within the predetermined time window before the corresponding clock edge of the clock signal, or of the signal obtained therefrom, the signal delay time caused by said delay device is decremented or incremented in smaller time steps than prior to the determination.

13. (Cancelled)

14. (Previously Presented) The apparatus according to claim 9, comprising wherein:
if the device determines that the clock edge of the delayed clock signal output by said delay device, or of the signal obtained therefrom, lies within the predetermined time window before the corresponding clock edge of the clock signal, or of the signal obtained therefrom, the signal delay time caused by said delay device is decremented or incremented in smaller time steps than prior to the determination.

15. (Previously Presented) The apparatus according to claim 9, comprising wherein the duration of the time window is chosen as a function of the frequency of the clock signal.

16. (Currently Amended) An apparatus for utilization with the synchronization of clock signals, comprising:

a delay device with a variably controllable delay time into which a clock signal, or a signal obtained therefrom, is input, charged with the variably controllable delay time, and output as a delayed clock signal;

a device configured to determine whether a clock edge of the delayed clock signal output by the delay device, or of a signal obtained therefrom, lies within a predetermined time window before a corresponding clock edge of the clock signal, or of the signal obtained therefrom, wherein if it is determined that the clock edge of the delayed clock signal output by said delay device, or of the signal obtained therefrom, lies within the predetermined time window before the

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corresponding clock edge of the clock signal, or of the signal obtained therefrom, said device sends a determination signal to said delay device, and wherein the delay device changes from a first to a second mode in reaction to the determination signal; and

a second device for keeping the delay device in the second mode after it has been determined that the clock edge of the delayed clock signal output by said delay device, or of the signal obtained therefrom, lies within the predetermined time window before the corresponding clock edge of the clock signal, or of the signal obtained therefrom; and

a detection device configured to determine a duration of the time window as a function of the frequency of the clock signal detected by the detection device.

17. (Previously Presented) The apparatus according to claim 16, comprising wherein the delay device changes from a first to a second mode in reaction to the determination signal.

18. (Previously Presented) The apparatus according to claim 17, comprising wherein:

if the device determines that the clock edge of the delayed clock signal output by said delay device, or of the signal obtained therefrom, lies within the predetermined time window before the corresponding clock edge of the clock signal, or of the signal obtained therefrom, the signal delay time caused by said delay device is decremented or incremented in smaller time steps than prior to the determination.

19. (Cancelled)

20. (Cancelled)

21. (Currently Amended) The apparatus of claim 20, comprising wherein the ~~delay detection~~ device is switched automatically.

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22. (Previously Presented) An apparatus for utilization with the synchronization of clock signals, comprising:

a delay device with a variably controllable delay time that can be decremented or incremented in variably controllable time steps, into which a clock signal, or a signal obtained therefrom, is input, charged with the variably controllable delay time that can be decremented or incremented in variably controllable time steps, and output as delayed clock signal;

a device configured to determine whether a clock edge of the delayed clock signal output by said delay device, or of a signal obtained therefrom, lies within a predetermined time window before a corresponding clock edge of the clock signal, or of the signal obtained therefrom; and

wherein the apparatus is designed and equipped such that, if the device determines that the clock edge of the delayed clock signal output by the delay device, or of the signal obtained therefrom, lies within the predetermined time window before the corresponding clock edge of the clock signal, or of the signal obtained therefrom, the signal delay time caused by the delay device is decremented or incremented in smaller time steps, and thus more slowly, than prior to the determination; and

wherein a duration of the time window is chosen as a function of the frequency of the clock signal, and

a frequency determination device configured to determine the duration of the time window.

23. (Cancelled)

24. (Currently Amended) The apparatus according to claim 2322, comprising wherein:

if it is determined that the clock edge of the delayed clock signal output by said delay device, or of the signal obtained therefrom, lies within the predetermined time window before the corresponding clock edge of the clock signal, or of the signal obtained therefrom, said device sends a determination signal to said delay device.

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25. (Previously Presented) The apparatus according to claim 24, comprising wherein the delay device changes from a first to a second mode in reaction to the determination signal.

26. (Previously Presented) The apparatus according to claim 25, comprising wherein:
if the device determines that the clock edge of the delayed clock signal output by said delay device, or of the signal obtained therefrom, lies within the predetermined time window before the corresponding clock edge of the clock signal, or of the signal obtained therefrom, the signal delay time caused by said delay device is decremented or incremented in smaller time steps than prior to the determination.

27. (Cancelled)

28. (Currently Amended) A clock signal synchronizing method comprising:
charging a clock signal or a signal obtained therefrom with a variably controllable delay time, so that a delayed clock signal is obtained; and
determining whether a clock edge of the delayed clock signal, or of a signal obtained therefrom, lies within a predetermined time window before a corresponding clock edge of the clock signal, or of the signal obtained therefrom;
detecting a frequency of the clock signal; and
determining the duration of the time window as a function of the frequency of the detected clock signal.

29. (Currently Amended) An apparatus for utilization with the synchronization of clock signals, comprising:
delay means for providing a variably controllable delay time into which a clock signal, or a signal obtained therefrom, is input, charged with the variably controllable delay time, and output as a delayed clock signal; and

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means for determining whether a clock edge of the delayed clock signal output by the delay device, or of a signal obtained therefrom, lies within a predetermined time window before a corresponding clock edge of the clock signal, or of the signal obtained therefrom; and

means for detecting a frequency of the clock signal, including determining a duration of the time window as a function of the frequency of the clock signal detected by the second device.